TRENDS IN WASHINGTON EARNINGS, 1989-1999: A REPORT BASED ON THE CENSUS

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Change in Educational Distribution and its Impact on Mean Earnings

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Using data from the 1990 and 2000 five percent Public Use Microdata Sample (PUMS), the relationship between education and earnings was examined for Washington residents aged 18 to 64. Earnings include wage, salary, commission, bonus, and tip income from all jobs before deductions and/or net income from self-employment.[1]

Earnings are strongly related to education. Looking at Figure 1, one can see that among Washington State residents aged 18 to 64 those that had less than a high school diploma earned far less than those individuals with a masters, professional, or a doctoral degree. In 1999, the mean earnings of those with less than a high school diploma were $13,336, compared to $57,127 among those with a masters, professional, or doctoral degree.

Figure 1—Washington State's Mean Earnings by Education, 1999

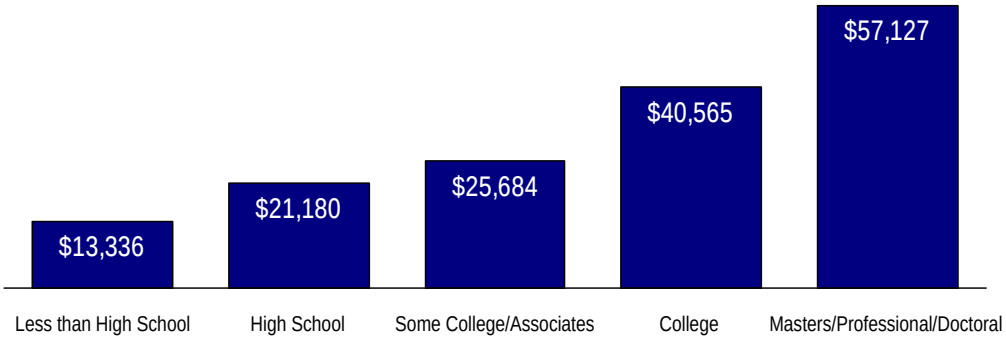
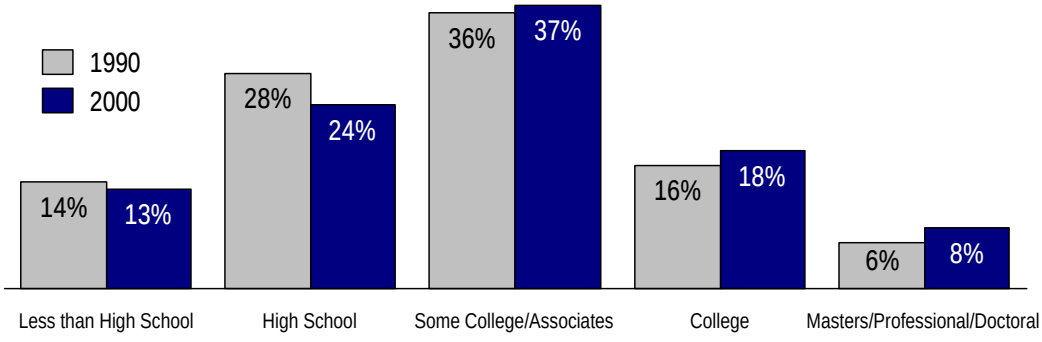


Figure 2—Educational Distribution of Washington State's Population, 1990–2000



The Washington State data used in this analysis come from the 2000 five percent Public Use Microdata Sample (PUMS). More information on these surveys can be found at the Census website: http://www.census.gov/main/www/pums.html.

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Change in Educational Distribution

Between the 1990 and 2000 decennial censuses, the educational distribution of the population shifted. In 2000, Washington State's working age population became better educated. In 2000, the population was more likely to have a college degree or more, and less likely to have a high school diploma or less (see Figure 2).

The Effect of the Change in the Educational Distribution on Earnings

In order to illustrate the effect of change in the educational distribution of the population, one can standardize the population. Applying the educational distribution of 1990 to the mean earnings by education of 1999, one finds that the overall mean earnings would have been $27,075, $1,216 less than the actual mean earnings ($28,291). According to this, 26 percent of the $4,759 increase in earnings in 1999 can be attributed to the change in the educational distribution from 1990 to 2000.[2]

Table 1—Mean Earnings and Population Distribution by Education, Earnings Adjusted for Inflation (1999 dollars)

	Mean Earnings			Population Distribution		
	1989	1999	1999-1989	1990	2000	2000-1990
Less than High School	$11,927	$13,336	$1,409	13.9%	12.9%	-1.0%
High School	$18,983	$21,180	$2,197	27.7%	24.2%	-3.5%
Some College/Associates	$22,582	$25,684	$3,102	36.3%	36.7%	0.4%
College	$33,418	$40,565	$7,147	15.7%	17.8%	2.2%
Masters/Professional/Doctoral	$49,464	$57,127	$7,663	6.4%	8.4%	1.9%
Total	$23,532	$28,291	$4,759	100%	100%	0%

Conclusion

While the change in the educational distribution is not the only explanation for the increase in earnings between 1989 and 1999, it certainly is a contributing factor. Other factors, such as changes in the age distribution and employer related changes are also likely to affect earnings.

[1] The 2000 Census topcoded wage and salary earnings at $336,000 and self-employment earnings at $245,000. Total earnings are the sum of these two values. The 1990 Census total earnings adjusted for inflation were topcoded at $500,320 ($391,368 unadjusted).

[2] The relatively large increases in mean earnings experienced by those with at least a college education are likely driven, at least in part, by workers with stock options in the software industry.